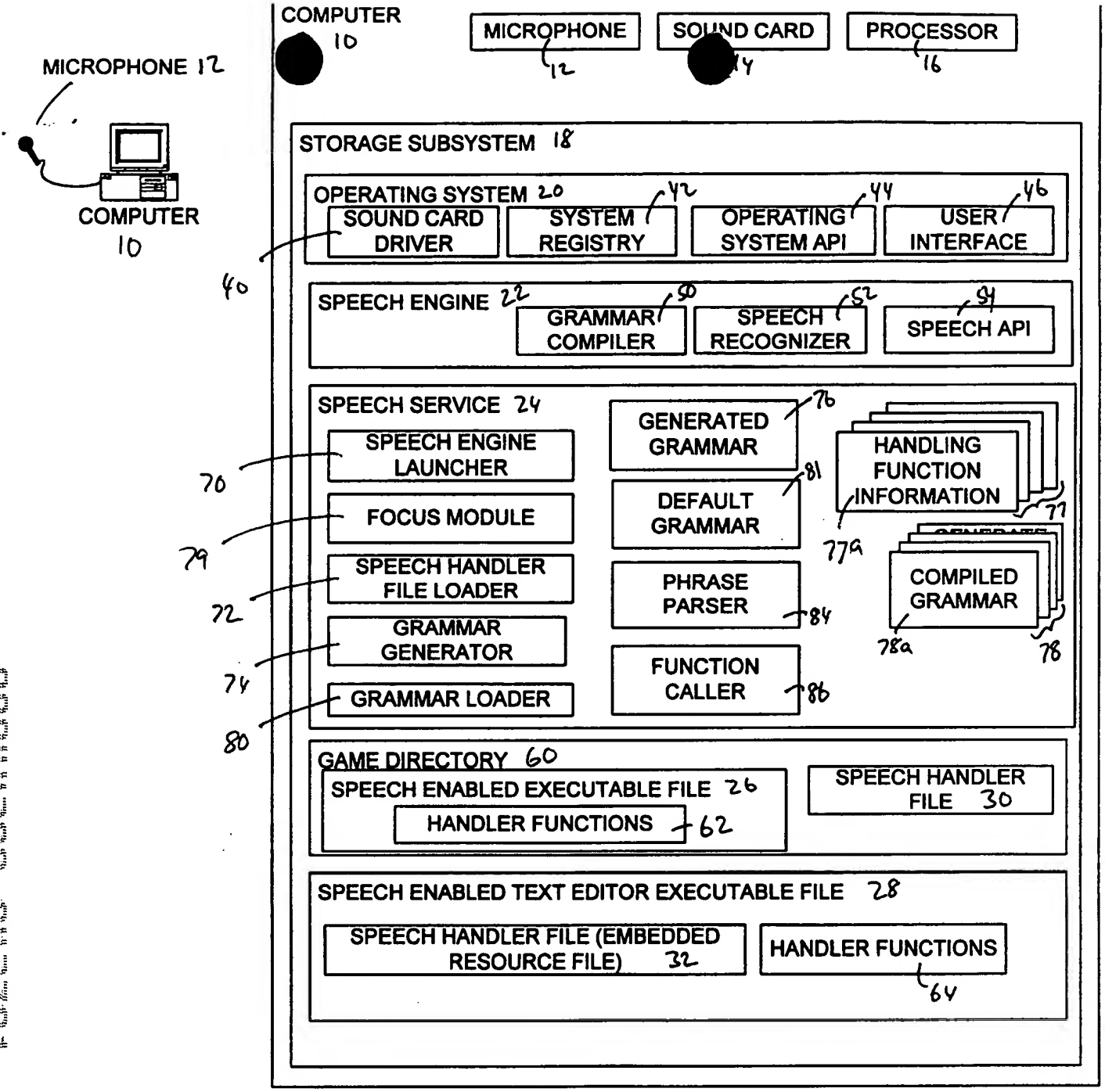
MICROPHONE 12
COMPUTER 10
COMPUTER 10
MICROPHONE 12
SOUND CARD 14
PROCESSOR 16
STORAGE SUBSYSTEM 18
OPERATING SYSTEM 20
SOUND CARD DRIVER
SYSTEM REGISTRY 42
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USER INTERFACE 46
40
SPEECH ENGINE 22
GRAMMAR COMPILER 50
SPEECH RECOGNIZER 52
SPEECH API 54
SPEECH SERVICE 24
SPEECH ENGINE LAUNCHER
70
FOCUS MODULE
79
SPEECH HANDLER FILE LOADER
72
GRAMMAR GENERATOR
74
GRAMMAR LOADER
80
GENERATED GRAMMAR 76
DEFAULT GRAMMAR 81
PHRASE PARSER 84
FUNCTION CALLER 86
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77a
COMPILED GRAMMAR 78
78a
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SPEECH ENABLED EXECUTABLE FILE 26
HANDLER FUNCTIONS 62
SPEECH HANDLER FILE 30
SPEECH ENABLED TEXT EDITOR EXECUTABLE FILE 28
SPEECH HANDLER FILE (EMBEDDED RESOURCE FILE) 32
HANDLER FUNCTIONS 64

FIG. 1

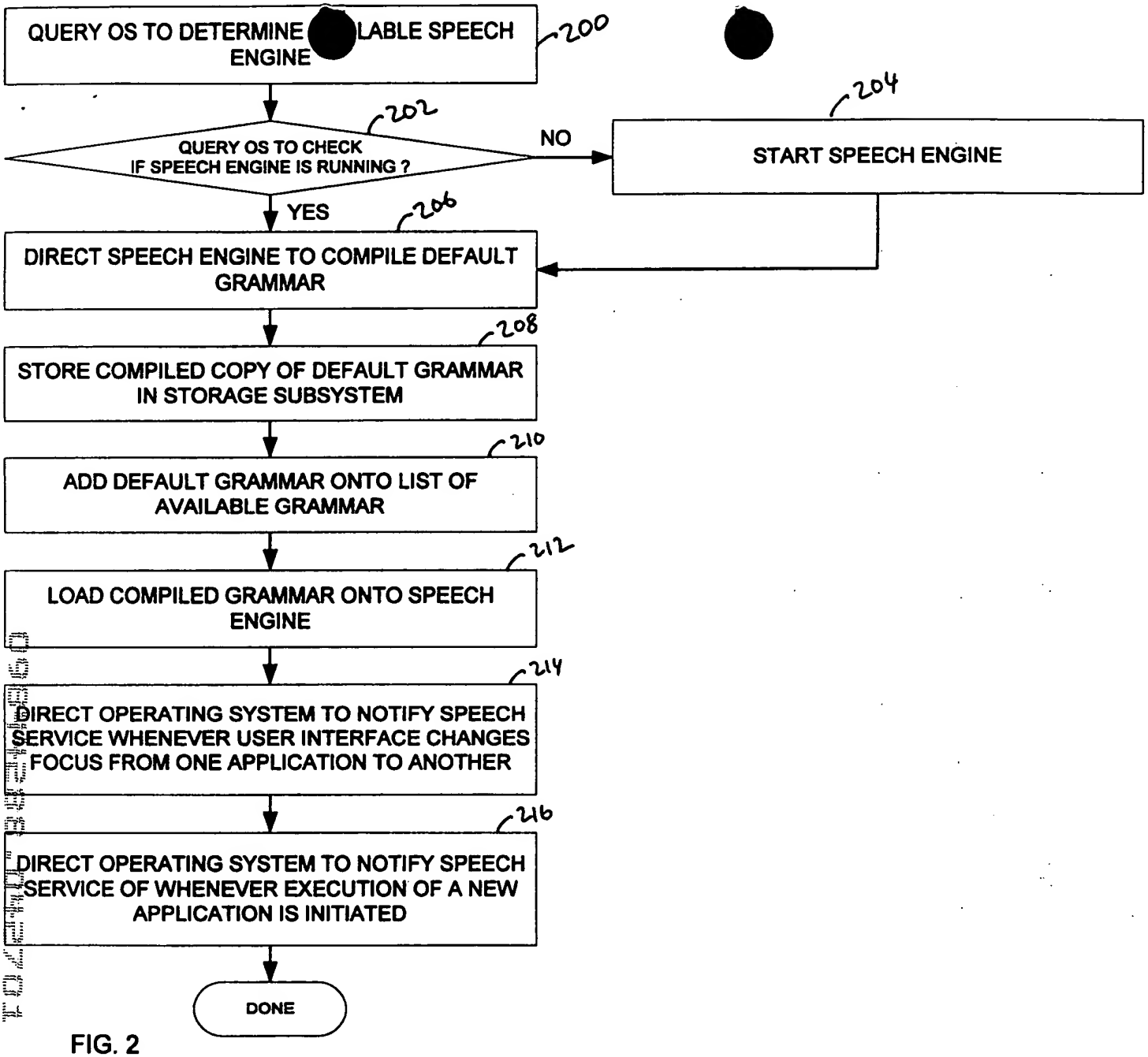
QUERY OS TO DETERMINE LABLE SPEECH ENGINE
200
QUERY OS TO CHECK IF SPEECH ENGINE IS RUNNING ?
202
NO
204
START SPEECH ENGINE
YES
206
DIRECT SPEECH ENGINE TO COMPILE DEFAULT GRAMMAR
208
STORE COMPILED COPY OF DEFAULT GRAMMAR IN STORAGE SUBSYSTEM
210
ADD DEFAULT GRAMMAR ONTO LIST OF AVAILABLE GRAMMAR
212
LOAD COMPILED GRAMMAR ONTO SPEECH ENGINE
214
DIRECT OPERATING SYSTEM TO NOTIFY SPEECH SERVICE WHENEVER USER INTERFACE CHANGES FOCUS FROM ONE APPLICATION TO ANOTHER
216
DIRECT OPERATING SYSTEM TO NOTIFY SPEECH SERVICE OF WHENEVER EXECUTION OF A NEW APPLICATION IS INITIATED
DONE

FIG. 2

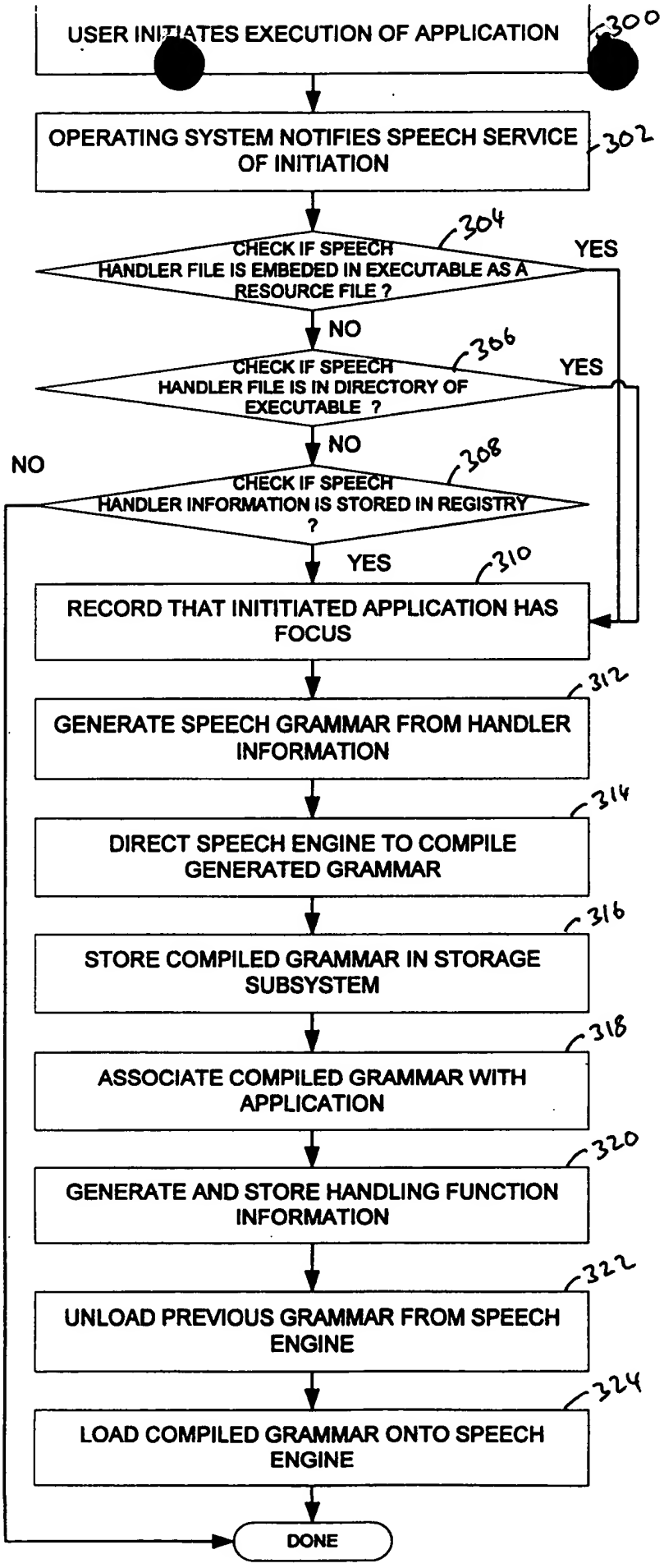
USER INITIATES EXECUTION OF APPLICATION
300
OPERATING SYSTEM NOTIFIES SPEECH SERVICE OF INITIATION
302
CHECK IF SPEECH HANDLER FILE IS EMBEDED IN EXECUTABLE AS A RESOURCE FILE ?
304
YES
NO
CHECK IF SPEECH HANDLER FILE IS IN DIRECTORY OF EXECUTABLE ?
306
YES
NO
NO
CHECK IF SPEECH HANDLER INFORMATION IS STORED IN REGISTRY ?
308
YES
RECORD THAT INITITIATED APPLICATION HAS FOCUS
310
GENERATE SPEECH GRAMMAR FROM HANDLER INFORMATION
312
DIRECT SPEECH ENGINE TO COMPILE GENERATED GRAMMAR
314
STORE COMPILED GRAMMAR IN STORAGE SUBSYSTEM
316
ASSOCIATE COMPILED GRAMMAR WITH APPLICATION
318
GENERATE AND STORE HANDLING FUNCTION INFORMATION
320
UNLOAD PREVIOUS GRAMMAR FROM SPEECH ENGINE
322
LOAD COMPILED GRAMMAR ONTO SPEECH ENGINE
324
DONE

FIG. 3

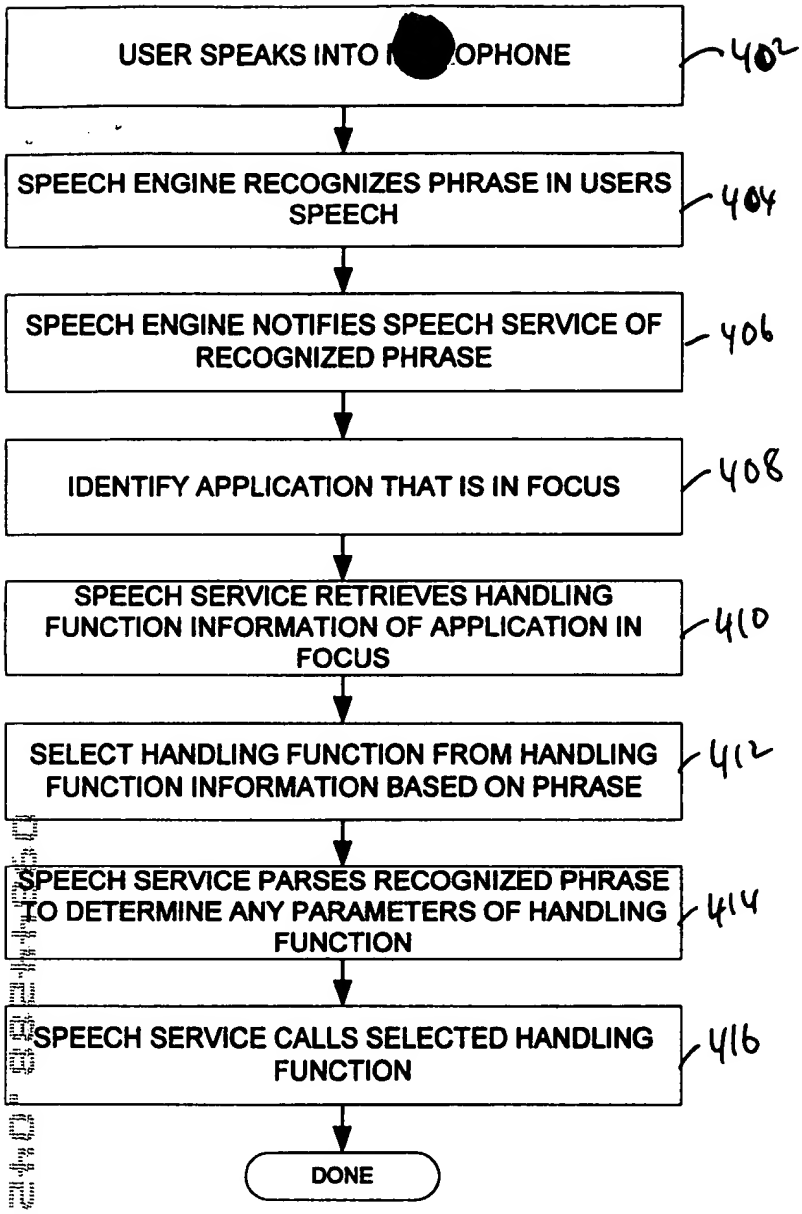
USER SPEAKS INTO MICROPHONE
402
SPEECH ENGINE RECOGNIZES PHRASE IN USERS SPEECH
404
SPEECH ENGINE NOTIFIES SPEECH SERVICE OF RECOGNIZED PHRASE
406
IDENTIFY APPLICATION THAT IS IN FOCUS
408
SPEECH SERVICE RETRIEVES HANDLING FUNCTION INFORMATION OF APPLICATION IN FOCUS
410
SELECT HANDLING FUNCTION FROM HANDLING FUNCTION INFORMATION BASED ON PHRASE
412
SPEECH SERVICE PARSES RECOGNIZED PHRASE TO DETERMINE ANY PARAMETERS OF HANDLING FUNCTION
414
SPEECH SERVICE CALLS SELECTED HANDLING FUNCTION
416
DONE

FIG. 4

Handling function	Phrase
int jump(void)	jump
int sendmail(char *recipient)	Sendmail to * "recipient"
int kick(char *person, char *bodypart)	Kick * "person" in * "bodypart"

93a 93b 93 93c 98b 94 96 92a 92b 92 92c 90

FIG. 5

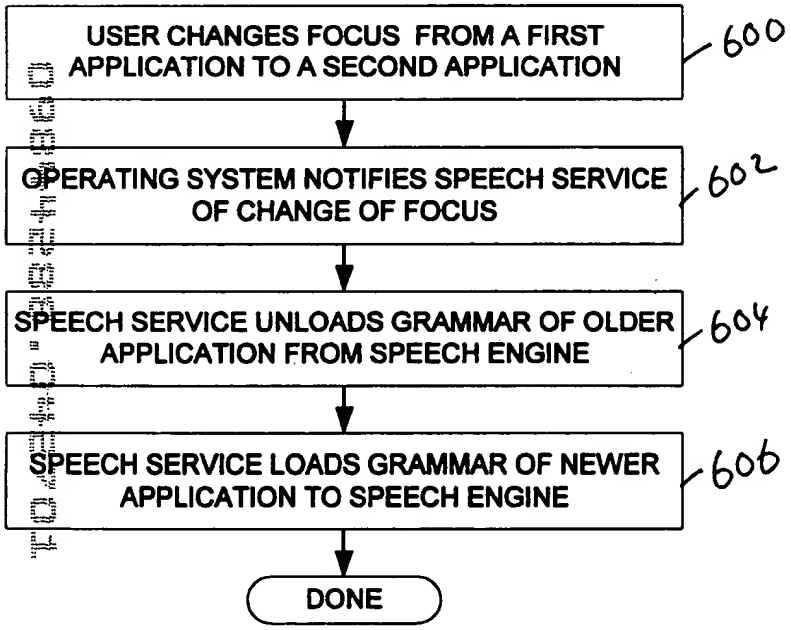

FIG. 6